

Claims

What is claimed is:

1. A system that facilitates operation of a tool, comprising:
a moveable member that moves in a rotary motion about a central axis and
a linear motion along the central axis; and
a drive member that is parallel to the central axis, and that extends the
length of the moveable member to engage the tool, which drive member operates
independently of the moveable member.
2. The system of claim 1, the drive member extends through the moveable
member to engage the tool.
3. The system of claim 1, the drive member is a rod that is axially aligned
with the central axis.
4. The system of claim 1, further comprising a coupling that is affixed to one
end of the drive member such that the coupling loosely engages the tool to facilitate
driving the tool.
5. The system of claim 1, the drive member drives the tool, which facilitates
at least one of dispensing a fluid, cutting, drilling.
6. The system of claim 1, further comprising a drive system that couples to
the drive member, which drive member slidably engages the drive system.
7. The system of claim 1, further comprising a control system that controls
at least one of the rotary motion, and the linear motion of the moveable member, and the
linear motion of the drive member.

8. The system of claim 1, the moveable member includes positioning means that facilitate controlling at least one of the rotary motion to a predetermined a rotary position and the linear motion to a predetermined a linear position.

9. The system of claim 8, the positioning means comprises magnetic means.

10. The system of claim 1, further comprising a coupling chamber that couples the tool to the moveable member.

11. The system of claim 1, further comprising a housing that partially houses the moveable member such that the linear motion extends the moveable member substantially therefrom.

12. A method of operating a tool, comprising:
coupling a moveable member to the tool;
rotating the moveable member about a central axis;
moving the moveable member along the central axis; and
driving part of the tool with a drive rod that operates independently of motion of the moveable member.

13. The method of claim 12, the drive rod is axially aligned with the central axis.

14. The method of claim 12, the moveable member is at least one of rotated about the central axis and moved along the central axis by a magnetic drive system.

15. The method of claim 12, further comprising engaging one end of the drive rod with a drive system.

16. The method of claim 12, further comprising preloading one end of the moveable member such that the tool is urged into contact therewith.

17. The method of claim 12, further comprising affixing a drive coupling at one end of the drive rod to engage the tool.

18. The method of claim 12, further comprising driving the drive rod with a direct drive system such that the drive rod extends through the direct drive system.

19. The method of claim 12, further comprising performing the acts of rotating and moving substantially simultaneously.

20. The method of claim 12, further comprising:
controlling the moveable member according to at least one of rotational movement and linear movement to arrive at a predetermined position; and
sensing the position of the moveable member with a sensor.

21. The method of claim 12, the act of driving occurs in response to sensing the moveable member at the predetermined position.

22. The method of claim 12, further comprising controlling the moveable member with a feedback control system such that progress of a task being performed by the tool is controlled.

23. A system for operating a tool, comprising:
means for providing rotary movement of a moveable member about a central axis and for providing linear movement of the moveable member along the central axis; and

means for driving part of an associated tool independently of movement of the moveable member, the associated tool is attached to the means for providing and the means for driving extends through at least a portion of the means for providing.

24. The system of claim 23, further comprising means for rotating the means for driving about an axis thereof, the means for rotating being operatively coupled to the means for providing.

25. The system of claim 24, the means for driving further comprising a drive rod that extends through the means for providing and is independently rotatable relative to rotary movement of the moveable member.

26. The system of claim 24, further comprising means for dispensing fluid in response to rotation of the drive rod.

27. The system of claim 26, the means for dispensing includes a screw that dispenses the fluid according to rotation of the drive rod.

28. The system of claim 24, the tool is removably engaged to the means for providing.

29. The system of claim 23, the means for driving is at least one of a direct drive system and an indirect drive system.

30. The system of claim 23, the means for providing includes magnetic means that facilitate the linear movement.

31. The system of claim 23, further comprising a coupling means that couples the tool to the moveable member.